

## CLAIMS

1. An optical amplifying device comprising a slab of material which is side-pumped in use to provide a gain region, the device comprising path definition means 5 for defining a path through the gain region for optical radiation to be amplified, wherein the path definition means is arranged such that said path comprises at least two, spatially different, grazing incidence reflections in the gain region.
2. A device according to Claim 1 wherein the grazing incidence reflections 10 include reflections of not more than 20 degrees.
3. A device according to Claim 1 wherein the grazing incidence reflections include reflections of not more than 10 degrees.
- 15 4. A device according to any one of the preceding claims wherein the gain region has more than one gain area, and the reflections occur in different respective gain areas.
5. A device according to Claim 4 wherein at least two gain areas of the gain 20 region are different spatial areas of a common gain region.
6. A device according to either one of claims 4 or 5 wherein at least two gain areas are each provided by different respective pump sources.
- 25 7. A device according to any one of the preceding claims, provided with feedback to the gain region enabling the device to lase in use so as to provide an optical source.
8. A device according to any one of the preceding claims wherein the path 30 definition means comprises at least one mirror.
9. A device according to any one of the preceding claims wherein the path definition means comprises at least one surface of the slab of material.

10. A device according to Claim 7, in combination with a device according to claim 1 for receiving and amplifying radiation output by the optical source, wherein the devices share a common slab of material.

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11. A device according to any one of the preceding claims wherein the gain extraction associated with each grazing incidence reflection in the gain region is of a comparable magnitude.

10 12. A method of amplifying optical radiation which method comprises passing the radiation through a side-pumped bounce amplifier along a path providing total internal reflection at grazing incidence at at least two spatially different locations on a side-pumped face of the amplifier.